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# EC67-215 Grain Feeding Guide for Dairy Cows

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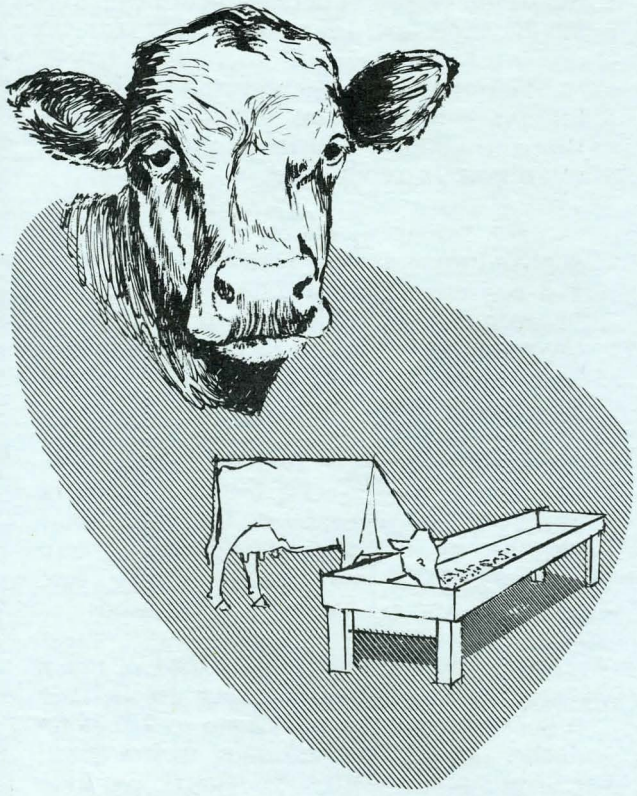

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The amount of grain mixture to feed cows producing different amounts of milk at various fat percentages and eating excellent, average or fair forages is shown in Table 1.

One other factor to consider is the milk-feed price ratio. For example, if the value of 100 pounds of milk is twice the value of 100 pounds of grain ($5.00-$2.50) then feed grain more liberally than is shown in Table 1, particularly to the higher producing cows. If the value of 100 pounds of milk is about the same as the value of 100 pounds of grain ($3.50-$3.00) then feed less grain.

Determine the amount and quality of forages your cows are eating. Then select the amount and fat content of milk each cow is producing.

For example, a cow eating average quality forage and producing 60 pounds of 3.5 percent milk daily needs 24 pounds of grain. If the milk-grain price ratio is favorable, the amount of grain fed could be increased 10 to 15 percent or to about 27 pounds.

Lead-feeding - Two to three weeks before calving feed 1 to 1 1/2 pounds grain per 100 pounds bodyweight. After calving, the cow should continue to have free choice of high quality forage, and grain should be steadily increased.

Usually, an additional pound of grain daily will be adequate, but sometimes this rate should be increased to 2 pounds daily. As long as she eats all her grain and responds with higher milk production, increases in grain should be continued. This is a critical period and each cow should be encouraged to consume feed to the limit of her appetite.

About 4 to 6 weeks after calving cows begin to decline in production. When this happens feeding in accordance with Table 1 is recommended.

Table 1. Grain Mixture Feeding Guide.

| Daily Milk (Lbs.) | Percent Fat in Milk | | | | | | |
|---|---|---|---|---|---|---|---|
| | 3.0% | 3.5% | 4.0% | 4.5% | 5.0% | 5.5% | 6.0% |
| | Quality Forage | | | | | | |
| | Ex-Av-F | Ex-Av-F | Ex-Av-F | Ex-Av-F | Ex-Av-F | Ex-Av-F | Ex-Av-F |
| | Lbs. | Lbs. | Lbs. | Lbs. | Lbs. | Lbs. | Lbs. |
| 10 | 0-0-2 | 0-0-3 | 0-2-4 | 0-2-5 | 0-2-5 | 0-3-6 | 0-3-7 |
| 15 | 0-2-4 | 0-3-5 | 0-3-6 | 0-4-7 | 0-5-8 | 0-6-8 | 0-7-9 |
| 20 | 0-3-6 | 1-4-8 | 2-5-9 | 3-7-10 | 3-7-11 | 4-8-12 | 4-9-13 |
| 25 | 2-5-8 | 3-6-10 | 4-8-11 | 6-9-13 | 7-10-13 | 7-11-15 | 8-11-16 |
| 30 | 4-7-10 | 5-9-12 | 7-10-14 | 8-12-15 | 10-13-16 | 10-14-18 | 11-15-19 |
| 35 | 6-9-12 | 8-11-14 | 9-13-16 | 11-15-18 | 13-16-19 | 14-17-20 | 14-18-21 |
| 40 | 8-11-15 | 10-13-17 | 12-15-19 | 14-17-21 | 15-19-22 | 16-10-23 | 17-21-24 |
| 45 | 10-14-18 | 12-16-20 | 14-18-22 | 16-20-24 | 18-22-25 | 19-23-26 | 20-24-27 |
| 50 | 13-16-20 | 15-18-22 | 17-21-24 | 19-23-26 | 21-25-28 | 22-26-29 | 23-27-30 |
| 55 | 15-19-22 | 17-21-24 | 19-24-27 | 22-26-29 | 24-29-33 | 26-30-34 | -------- |
| 60 | 18-22-24 | 20-24-27 | 22-27-30 | 24-28-32 | 28-33-36 | 29-33-36 | -------- |
| 65 | 20-24-27 | 23-26-29 | 25-29-33 | 28-32-25 | 31-25-39 | -------- | -------- |
| 70 | 23-28-33 | 27-32-36 | 29-34-36 | 33-37-39 | 35-39-41 | -------- | -------- |
| 75 | 27-31-36 | 30-36-39 | 32-38-40 | 36-41-43 | -------- | -------- | -------- |
| 80 | 31-35-39 | 33-39-42 | 35-42-45 | 38-45-48 | -------- | -------- | -------- |
| 85 | feed to maximum appetite | | | -------- | -------- | -------- | -------- |
| 90 | feed to maximum appetite | | | -------- | -------- | -------- | -------- |

Excellent Forage - Cows consume more than 2.5 pounds hay equivalent per 100 Lbs. B. W.
Average Forage - Cows consume 2 to 2.5 pounds hay equivalent per 100 Lbs. B. W.
Fair Forage - Cows consume less than 2 pounds hay equivalent per 100 Lbs. B. W.
Increase Grain - 3 to 5 pounds daily for 2 and 3 year old cows.

Dairy cows need feed for:

1. Body Maintenance - Feed is needed to carry on essential body functions to maintain bodyweight and condition. Requirements for body maintenance increase with the size of the animal, but do not include needs for growth, reproduction or milk production.

2. Growth to Maturity - Dairy animals continue to grow until they are 5 to 7 years old. Jerseys and Guernseys mature faster than Holsteins and Brown Swiss. Younger animals grow at a faster rate. Cows 2 to 5 years old continue to grow after calving, therefore, they require 3 to 5 pounds of grain in addition to that shown in the feeding guide.

3. Reproduction - The most rapid growth of the fetus takes place the 7th 8th and 9th month of gestation. A general recommendation is to feed 1 to 1 1/2 pounds of grain per 100 pounds of bodyweight 2 to 3 weeks before calving, along with free-choice feeding of good to excellent forage.

4. Milk Production - Feed is required for milk production. About 340 calories or slightly over 1/3 of a Therm of ENE (Estimated Net Energy) is required for each pound of 4 percent milk produced. For the production of high testing milk, the requirement is slightly higher.

5. Body Reserve - Feeds fed in excess of the four requirements above will be stored by the cow as body reserve. Cows need the opportunity at the end of their lactation and during their dry period to build up their body reserve.

## Group Feeding

Because high producing cows may not eat enough grain while they are in the milking parlor, feeding the cows in groups according to production may be used.

Two methods are suggested:

Method 1 - for small herds (40 cows or less) feed grain outside to all cows. Then feed additional grain to the high producing cows in the parlor while they are being milked.

Method 2 - for herds of more than 40 cows, divide the cows into groups according to their production. For example, a herd of 60 cows might be divided into three groups as follows:

Group 1 - Cows producing in excess of 55 pounds of milk daily.

Group 2 - Cows producing 40 to 54 pounds of milk daily.

Group 3 - Cows producing less than 40 pounds of milk daily.

Feed cows in Group 1 according to Table 1 on the basis of 65 pounds of milk daily and the average fat test of the herd.

Feed cows in Group 2 on the basis of 45 to 50 pounds of milk daily and feed cows in Group 3 on the basis of 30 to 35 pounds of milk daily. This serves only as an example of grouping. The levels of production for the different groups and, likewise, the level of feeding may vary from herd to herd.